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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,848	06/24/2003	Chang-II Gu	1568.1063	8089

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EXAMINER

MARTIN, ANGELA J

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,848

Applicant(s)

GU, CHANG-IL

Examiner

Angela J. Martin

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is responsive to the Amendment filed on March 25, 2005. The Applicant has amended claim 13 and has added new claims 14, 15. However, the rejection is made final for the following reasons of record.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi et al., U.S. Pat. No. 6,653,018 B2.

Rejection of claims 1-4, 6-12 drawn to a pouch type secondary battery.

Takahashi et al., teach a pouch type (envelope) secondary battery (col. 1, lines 5-10) comprising an electrode assembly having positive and negative electrode plates with a separator inbetween (Fig. 8), and terminals extending from the plates (Fig. 1B); a pouch casing having a space in which the electrode assembly is housed, wherein the space has a seal portion at the periphery and at least one of the terminals is exposed to the seal portion; and at least one opening member disposed at the seal portion and made of a resin material having a lower melting point than the seal portion of the pouch casing (col. 19, lines 58-67 and col. 20, lines 1-2). It also teaches the opening member

Art Unit: 1745

has a flattened first end, the flattened first end facing the space of the pouch casing (Fig. 8). It teaches the first end is connected to an internal end of the seal portion facing the space of the seal portion at which the opening member is disposed (Fig. 1B; Fig. 8). It also teaches the opening member is polygon shaped (Fig. 1B). Additionally, it teaches the opening is circular or elliptical (col. 6, lines 28-37). It also teaches the thickness of the opening member in a direction perpendicular to the seal portion is less than half of the width of the seal portion at which the opening member is disposed (col. 8, lines 14-40). It teaches the opening is arranged under half of the width of the seal portion at which the opening is disposed (Fig. 1B; col. 6, lines 38-49). It teaches the electrodes are spaced a predetermined distance apart from each other to be exposed outside the pouch casing via the seal portion, and the opening member is interposed between the electrode terminals of the seal portion (Fig. 1B). It teaches the pouch casing has an adhesion layer made of resin on an internal face of the seal portion (col. 6, lines 16-27) and the opening member is made of resin having a lower melting point than a melting point of the adhesion layer (col. 8, lines 41-67). In addition, it teaches the opening member is made of a polyethylene resin material (col. 3, lines 40-54). It teaches at least one opening member of the pouch seal having a triangle shape (col. 6, lines 28-37) and comprising a resin having a lower melting point than a melting point of the pouch seal portion (col. 10, lines 22-26; col. 15, lines 54-64).

Thus, the claims are anticipated.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al., U.S. Pat. No. 6,653,018 B2.

Rejection of claims 5 and 13-15 drawn to a pouch type secondary battery.

Takahashi et al., teach a pouch type secondary battery as described above. It also teaches the opening member is triangular (col. 6, lines 16-27).

Takahashi et al., do not teach "one side of a triangle faces an interior side of the seal portion at which the opening member is disposed, and an angle opposite the side is in a range of 30 to 80 degrees." It does not teach a member made of a material having a lower melting point than that of the seal portion.

Thus, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the reference teaches that the "shape of the strip is not critical." Therefore, depending on the shape of the pouch (envelope) and the choice of the artisan, the opening member can be triangular with the above-described angles. In addition, Takahashi et al., teach seal portion is made of PP (polypropylene) (col. 17, lines 8-12) while the member disposed at the seal portion is made of PP and PE (polyethylene) (col. 17, lines 20-21). Since PP has a melting point of about 160-170 degrees C and PE has a melting point of about 130 degrees C, then

Art Unit: 1745

the member would melt before the seal portion since the member has a lower melting point than that of the seal portion.

Response to Arguments

5. Applicant's arguments filed March 25, 2005 have been fully considered but they are not persuasive. Applicant argues that Takahashi et al., teach "the strip serves as a pressure relief valve for relieving pressure within the envelope." However, Applicant teaches a "safety vent" in the title. Applicant argues that Takahashi et al., teach a strip that is "a pressure releasing valve as opposed to an opening member that melts due to a melting point thereof being lower than the seal of the pouch." However, in claim 1, the "melting point" was not claimed. Applicant argues that in Takahashi et al., "no mention is made...that the strip is made of a material with a lower melting point than the thermal fusible resins." However, in col. 17, lines 8-22, Takahashi et al., teach the seal portion made of PP and the member made of PP and PE, each of which have different melting points as described above. Applicant argues that "in the claimed invention, the opening member is made of a resin material having a lower melting point than the seal portion of the pouch casing such that the opening member inherently melts as a result of the temperature increase inside the battery above that of the melting point of the opening member material..." However, the Takahashi et al., material would also "inherently" melt since the member has a lower melting point (PE and PP) than the seal portion (PP).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela J. Martin whose telephone number is 571-272-1288. The examiner can normally be reached on Monday-Friday from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1745

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJM


PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER